

Applicants: Wayne A. Hendrickson et al.
Serial No.: 09/609,027
Filed: June 29, 2000
Page 2

In the Claims:

Please amend the claims by replacing all prior versions of the claims pursuant to 37 C.F.R. §1.121 as modified by 68 Fed. Reg. 38611 (June 30, 2003) as follows:

1-20. (Previously Canceled)

21. (Previously Presented) The method of claim 50, wherein F_1 corresponds to a segment of amino acid residues from within N-terminal residues 1-10 of SCF (SEQ ID NO:1), F_2 corresponds to a segment of amino acid residues from within residues 79-95 of SCF, and F_3 corresponds to a segment of amino acid residues located within three amino acid residues of amino acid residue 127 of SCF, and where, in X_n , X_m , and X_p respectively, $n=0-5$, $m=0-5$ and $p=3-8$ amino acid residues.

22. (Previously Presented) The method of claim 50, wherein F_1 , F_2 , and F_3 have been selected by bacterial phage display for optimal receptor binding.

23-25. (Previously Canceled)

26. (Previously Presented) The method of claim 50, wherein the organic polymer is polyethyleneglycol (PEG) comprising the structure $H[OCH_2CH_2]_nOH$, wherein n is 10-20.

27. (Previously Presented) The method of claim 50, wherein the capping moiety is a thiol-reactive group.

28-47. (Previously Canceled)

48. (Currently Amended) A method for designing a compound capable of binding to a Stem Cell Factor-binding site of a ~~Kit receptor~~ Stem Cell Factor receptor comprising the steps of:

- a) determining the 3-D structure of a fragment of a Stem Cell Factor (SCF) by computing atomic coordinates from X-ray diffraction data of a crystal of the fragment of SCF, wherein the fragment of SCF consists of consecutive amino acids the sequence of which is set forth in SEQ ID NO:1;
- b) ~~determining a Kit receptor~~ identifying a Stem Cell Factor receptor-binding site on the fragment of SCF based on the 3-D structure of the SCF fragment; and
- c) ~~and~~ designing a compound capable of binding to the Stem Cell Factor-binding site of the Stem Cell Factor receptor of the Kit receptor based on a 3-D structure shape complementarity or estimated interaction energy of the Stem Cell Factor receptor-binding site on the fragment of SCF.

49. (Previously Canceled)

50. (Currently Amended) The method of claim 48, wherein the designed compound capable of binding to a ~~Kit~~ Stem Cell Factor receptor comprises two ligand heads linked by a linker molecule, wherein the linker molecule is an organic polymer attached at each end to a separate capping moiety, each capping moiety attached in turn to a single ligand

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Page 4

head via a cysteine residue, wherein the ligand head comprises the elements $F_1-X_n-F_L(\text{Cys})-X_m-F_2-X_p-F_3$, wherein F_1 , F_2 and F_3 are peptides each comprising amino acid sequences corresponding to consecutive amino acid residues of SCF (SEQ ID NO:1), X_n and X_p are peptides of n and p amino acid residues respectively, F_L is the cysteine residue and each element is linked to the next via a peptide bond.

51. (Previously Presented) The method of claim 27, wherein the thiol-reactive group is N-ethyl maleimide.